WHAT IS CLAIMED IS:

1. A method for code tracking in multipath with a plurality of paths using delay lock loops (DLLs), the method comprising:

assigning a DLL to each path in the multipath;

adjusting each DLL to maximize sample strength;

placing samples less than a first specified threshold apart into groups;

adjusting the DLL assigned to the samples in the groups so that they are greater than the first specified threshold apart;

regrouping the groups that are less than a second specified threshold apart; and

applying a group decision rule to the regrouped groups.

2. The method of claim 1 further comprising repeating the regrouping and applying until the groups are greater than the second specified threshold apart.

3. The method of claim 2, wherein the first and the second specified thresholds are equal.

4. The method of claim 1, wherein the first adjusting comprises a DLL choosing to advance, retard, or make no adjustment to the path.

5. The method of claim 4, wherein there can be multiple advance and retard adjustments.

6. The method of claim 4, wherein the advance adjustment is an early sample, the retard adjustment is a late sample, and no adjustment is an on-time sample of the path.

7. The method of claim 1, wherein the second adjusting comprises:

for each group,

fixing a sample with a largest magnitude in the group; and

adjusting the DLLs of other samples so that the samples are greater than the first specified threshold apart.

8. The method of claim 7, wherein if there is more than one sample with the largest magnitude, then the sample furthest away from other samples in the group should be fixed.

9. The method of claim 7, wherein if there is more than one sample with the largest magnitude, then a sample is randomly fixed.

10. The method of claim 1, wherein the regrouping comprises joining the groups into a single group.

11. The method of claim 1, wherein the applying of the group decision rule comprises:

for each group,

selecting a path with the largest magnitude; and

moving the remaining paths so that the paths are greater than the second specified threshold apart.

12. The method of claim 11, wherein the paths used in the group decision rule are on-time paths.

13. The method of claim 1, wherein the applying of the group decision rule comprises:

for each group,

calculating a first energy for on-time paths;

calculating a second energy for early paths;

calculating a third energy for late paths; and

adjusting the paths in a direction resulting in the largest calculated energy.

14. The method of claim 13, wherein if there is more than one largest calculated energy, then the adjustment can be randomly selected along a direction resulting in the largest calculated energy.

15. The method of claim 13, wherein interpolation can be used to estimate values of paths which are missing.

16. The method of claim 15, wherein the interpolation is linear interpolation.

17. The method of claim 1, wherein the applying of the group decision rule comprises:

for each group,

calculating a ratio for each on-time path;

summing each ratio multiplied with its associated DLL adjustment;

assigning a weight based on a comparison of the summed value with specified thresholds; and

permitting adjustments only in a direction consistent with the weight.

18. The method of claim 17, wherein the calculating of a ratio can be expressed mathematically as:

$$w = \frac{magnitude\_of\_sample}{sum\_of\_magnitudes\_of\_all\_samples}.$$

19. The method of claim 17, wherein a ratio is multiplied with a +1 if its associated DLL adjustment is a retarding of the timing, wherein a ratio is multiplied with a -1 if its associated

DLL adjustment is an advancement of the timing, and wherein the ratio is multiplied with a 0 if its associated DLL adjustment is no change in the timing.

20. The method of claim 17, wherein the summed value is compared with two specified thresholds.

21. The method of claim 20, wherein the weight is assigned a negative value if the summed value is less than a third specified threshold and the weight is assigned a positive value if the summed value is less than a fourth specified threshold.

22. The method of claim 21, wherein the third specified threshold is equal to the negative of the fourth specified threshold.

23. The method of claim 21, wherein the weight is assigned a zero value if the summed value is between the third and the fourth specified thresholds.

24. The method of claim 17, wherein if the weight is a negative value, only retarding the DLL timing is permitted, wherein if the weight is a positive value, only advancing the DLL timing is permitted.

25. The method of claim 24, wherein if the weight is a zero value, then no adjustments to the DLL timing is permitted.

26. A code tracking loop comprising:

a plurality of tracking fingers coupled to a delay spread estimator, each tracking finger containing circuitry to demodulate a signal at a specified code offset;

a plurality of delay lock loops (DLLs) coupled to the delay spread estimator, each DLL containing circuitry to provide a timing adjustment for use in fine tuning the tracking of a signal by a tracking finger to which it is coupled;

a group decision unit coupled to the plurality of DLLs, the group decision unit containing circuitry to compute tracking finger adjustment information based upon timing adjustment information provided by the DLLs to ensure that the tracking fingers are demodulating signals that are greater than a specified threshold apart; and

a combiner coupled to the plurality of tracking fingers, the combiner containing circuitry to join the demodulated signals produced by the tracking fingers into a single signal.

27. The code tracking loop of claim 26, wherein the group decision unit provides tracking adjustment information to each of the tracking fingers.

28. The code tracking loop of claim 27, wherein the tracking adjustment information is based upon timing adjustment information from each DLL in the code tracking loop.

29. The code tracking loop of claim 27, wherein the group decision unit can modify the timing adjustment information provided by the DLLs for signals that are less than the specified threshold apart.

30. A wireless device comprising:

a radio frequency (RF) block coupled to a signal input, the RF block containing circuitry to filter and amplify a signal provided by the signal input;

a code tracking loop coupled to the RF block, the code tracking loop comprising

a plurality of tracking fingers coupled to a delay spread estimator, each tracking finger containing circuitry to demodulate a signal at a specified code offset;

a plurality of delay lock loops (DLLs) coupled to the delay spread estimator, each DLL containing circuitry to provide a timing adjustment for use in fine tuning the tracking of a signal by a tracking finger to which it is coupled;

a group decision unit coupled to the plurality of DLLs, the group decision unit containing circuitry to compute tracking finger adjustment information based upon timing adjustment information provided by the DLLs to ensure that the tracking fingers are demodulating signals that are greater than a specified threshold apart;

a combiner coupled to the plurality of tracking fingers, the combiner containing circuitry to join the demodulated signals produced by the tracking fingers into a single signal; and

the wireless device further comprising

a demodulator and decoder coupled to the code tracking loop, the demodulator and decoder containing circuitry to extract a digital data stream from the single signal produced by the code tracking loop.

31. The wireless device of claim 30, wherein the wireless device is used in a direct sequence code-division multiple access (DS-CDMA) communications network.

32. The wireless device of claim 31, wherein the DS-CDMA communications network is a TIA/EIA-95 compliant network.

33. The wireless device of claim 31, wherein the DS-CDMA communications network is a CDMA2000 compliant network.

34. The wireless device of claim 31, wherein the DS-CDMA communications network is a UMTS (Universal Mobile Telephony System) compliant network.